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Sequence Listing was accepted.

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Reviewer: markspencer

Timestamp: [year=2009; month=3; day=4; hr=15; min=47; sec=17; ms=740; ]

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## Validated By CRFValidator v 1.0.3

Application No: 10599327 Version No: 2.0

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**Finished:** 2009-02-13 16:47:13.679

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No. of SeqIDs Defined: 18

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## SEQUENCE LISTING

| <110>   | Shinomiya, Nariyoshi et al.<br>Van Andel Research Institute                            |                    |                |  |  |  |  |  |  |  |  |  |
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| <141>   | 2009-02-13                                                                             |                    |                |  |  |  |  |  |  |  |  |  |
| <150>   | 60/556,473                                                                             |                    |                |  |  |  |  |  |  |  |  |  |
| <151>   | 2004-03-26                                                                             |                    |                |  |  |  |  |  |  |  |  |  |
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900

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| Thr Leu Val Gln Arg Ser Asn Gly Glu Cys Lys Glu Ala Leu Ala Lys 20 25 30       |  |  |  |  |  |  |  |  |  |  |  |
| Ser Glu Met Asn Val Asn Met Lys Tyr Gln Leu Pro Asn Phe Thr Ala<br>35 40 45    |  |  |  |  |  |  |  |  |  |  |  |
| Glu Thr Pro Ile Gln Asn Val Ile Leu His Glu His His Ile Phe Leu 50 55 60       |  |  |  |  |  |  |  |  |  |  |  |
| Gly Ala Thr Asn Tyr Ile Tyr Val Leu Asn Glu Glu Asp Leu Gln Lys 65 70 75 80    |  |  |  |  |  |  |  |  |  |  |  |
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| Lys Asp Asn Ile Asn Met Ala Leu Val Val Asp Thr Tyr Tyr Asp Asp 115 120 125    |  |  |  |  |  |  |  |  |  |  |  |
| Gln Leu Ile Ser Cys Gly Ser Val Asn Arg Gly Thr Cys Gln Arg His<br>130 135 140 |  |  |  |  |  |  |  |  |  |  |  |
| Mal Dho Dwo Hig Agn Hig The Ale Are The Che Car Che Mal His Core               |  |  |  |  |  |  |  |  |  |  |  |

| Ile        | Phe        | Ser        | Pro        | Gln<br>165 | Ile        | Glu        | Glu        | Pro        | Ser<br>170 | Gln        | Суз        | Pro        | Asp        | Cys<br>175 | Val        |
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| Суз<br>385 | Leu        | Gln        | His        | Phe        | Tyr<br>390 | Gly        | Pro        | Asn        | His        | Glu<br>395 | His        | Cys        | Phe        | Asn        | Arg<br>400 |
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| Gly        | Gly        | Thr        | Arg<br>580 | Leu        | Thr        | Ile        | Cys        | Gly<br>585 | Trp        | Asp        | Phe        | Gly        | Phe<br>590 | Arg        | Arg        |
| Asn        | Asn        | Lys<br>595 | Phe        | Asp        | Leu        | Lys        | Lys        | Thr        | Arg        | Val        | Leu        | Leu<br>605 | Gly        | Asn        | Glu        |

Ser Cys Thr Leu Thr Leu Ser Glu Ser Thr Met Asn Thr Leu Lys Cys

610 615 620

Thr Val Gly Pro Ala Met Asn Lys His Phe Asn Met Ser Ile Ile Ile 625 630 635 640 Ser Asn Gly His Gly Thr Thr Gln Tyr Ser Thr Phe Ser Tyr Val Asp 645 650 655 Pro Val Ile Thr Ser Ile Ser Pro Lys Tyr Gly Pro Met Ala Gly Gly 660 665 670 Thr Leu Leu Thr Leu Thr Gly Asn Tyr Leu Asn Ser Gly Asn Ser Arg 675 680 685 His Ile Ser Ile Gly Gly Lys Thr Cys Thr Leu Lys Ser Val Ser Asn 690 695 700 Ser Ile Leu Glu Cys Tyr Thr Pro Ala Gln Thr Ile Ser Thr Glu Phe 705 710 715 720 Ala Val Lys Leu Lys Ile Asp Leu Ala Asn Arg Glu Thr Ser Ile Phe 725 730 735 Ser Tyr Arg Glu Asp Pro Ile Val Tyr Glu Ile His Pro Thr Lys Ser 740 745 750 Phe Ile Ser Thr Trp Trp Lys Glu Pro Leu Asn Ile Val Ser Phe Leu 755 760 765 Phe Cys Phe Ala Ser Gly Gly Ser Thr Ile Thr Gly Val Gly Lys Asn 770 775 780 Leu Asn Ser Val Ser Val Pro Arg Met Val Ile Asn Val His Glu Ala 790 795 Gly Arg Asn Phe Thr Val Ala Cys Gln His Arg Ser Asn Ser Glu Ile 805 810 815 Ile Cys Cys Thr Thr Pro Ser Leu Gln Gln Leu Asn Leu Gln Leu Pro 825 830 820

Leu Lys Thr Lys Ala Phe Phe Met Leu Asp Gly Ile Leu Ser Lys Tyr

845

840

835

| Phe Asp Leu Ile Tyr Val His Asn Pro Val Phe Lys Pro Phe 850 855 860    | Glu Lys        |
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| Thr Val Pro Asn Asp Leu Leu Lys Leu Asn Ser Glu Leu Asn 915 920 925    | Ile Glu        |
| Trp Lys Gln Ala Ile Ser Ser Thr Val Leu Gly Lys Val Ile<br>930 935 940 | Val Gln        |
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|                                                                        |                |

Thr Ser Gly Asp Ser Asp Ile Ser Ser Pro Leu Leu Gln Asn Thr 1055 1060 1060

| Val | His<br>1070 | Ile | Asp | Leu | Ser | Ala<br>1075 | Leu | Asn | Pro | Glu | Leu<br>1080 | Val | Gln | Ala |
|-----|-------------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-------------|-----|-----|-----|
| Val | Gln<br>1085 | His | Val | Val | Ile | Gly<br>1090 | Pro | Ser | Ser | Leu | Ile<br>1095 | Val | His | Phe |
| Asn | Glu<br>1100 | Val | Ile | Gly | Arg | Gly<br>1105 | His | Phe | Gly | Суз | Val<br>1110 | Tyr | His | Gly |
| Thr | Leu<br>1115 | Leu | Asp | Asn | Asp | Gly<br>1120 | Lys | Lys | Ile | His | Cys<br>1125 | Ala | Val | Lys |
| Ser | Leu<br>1130 | Asn | Arg | Ile | Thr | Asp<br>1135 | Ile | Gly | Glu | Val | Ser<br>1140 | Gln | Phe | Leu |
| Thr | Glu<br>1145 | Gly | Ile | Ile | Met | Lys<br>1150 | Asp | Phe | Ser | His | Pro<br>1155 | Asn | Val | Leu |
| Ser | Leu<br>1160 | Leu | Gly | Ile | Суз | Leu<br>1165 | Arg | Ser | Glu | Gly | Ser<br>1170 | Pro | Leu | Val |
| Val | Leu<br>1175 | Pro | Tyr | Met | Lys | His<br>1180 | Gly | Asp | Leu | Arg | Asn<br>1185 | Phe | Ile | Arg |
| Asn | Glu<br>1190 | Thr | His | Asn | Pro | Thr<br>1195 | Val | Lys | Asp | Leu | Ile<br>1200 | Gly | Phe | Gly |
| Leu | Gln<br>1205 | Val | Ala | Lys | Ala | Met<br>1210 | Lys | Tyr | Leu | Ala | Ser<br>1215 | Lys | Lys | Phe |
| Val | His<br>1220 | Arg | Asp | Leu | Ala | Ala<br>1225 | Arg | Asn | Cys | Met | Leu<br>1230 | Asp | Glu | Lys |
| Phe | Thr<br>1235 | Val | Lys | Val | Ala | Asp<br>1240 | Phe | Gly | Leu | Ala | Arg<br>1245 | Asp | Met | Tyr |
| Asp | Lys<br>1250 |     | Tyr | Tyr | Ser | Val<br>1255 | His | Asn | Lys | Thr | Gly<br>1260 | Ala | Lys | Leu |
| Pro | Val<br>1265 | Lys | Trp | Met | Ala | Leu<br>1270 | Glu | Ser | Leu | Gln | Thr<br>1275 | Gln | Lys | Phe |

Leu Met Thr Arg Gly Ala Pro Pro Tyr Pro Asp Val Asn Thr Phe 1295 1300 1305

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